

In the Claims:

- 1 1. A hydroforming system comprising:
2 a dual conical tube formed from a blank
3 comprising a first end, a second end and a central
4 portion positioned between said first and said second
5 ends, said central portion having a smaller cross
6 sectional area than said first and said second ends; and
7 a shaping die adapted to receive said dual
8 conical tube, said shaping die subject to pressurize
9 such that said blank substantially approximates a shape
10 of said shaping die.
- 1 2. The system of claim 1, wherein said blank
2 is substantially bow tie shaped.
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- 2 3. The system of claim 1, further comprising
3 at least one reinforcement coupled to said blank.
- 1 4. The system of claim 1, wherein said
2 shaping die is coupled to a forming system.
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- 2 5. The system of claim 4, wherein said
3 forming system comprises a hydroforming press.
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- 2 6. The system of claim 1, wherein said dual
3 conical tube is further adapted to bend through a
4 bending process prior to insertion in said shaping die.
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- 2 7. The system of claim 1, wherein said shape
3 of said shaping die substantially conforms to a shape of
4 at least one automobile body component.

1 8. A hydroforming system comprising:

2 a dual conical tube formed from a
3 substantially bow tie shaped blank, said dual conical
4 tube comprising a first end, a second end and a central
5 portion positioned between said first and said second
6 ends, said central portion having a smaller cross
7 sectional area than said first and said second ends; and
8 a shaping die adapted to receive said dual
9 conical tube, said shaping die subject to pressurize
10 such that said dual conical tube substantially
11 approximates a shape of said shaping die.

1 9. The system of claim 8, further comprising
2 at least one reinforcement coupled to said substantially
3 bow tie shaped blank.

1 10. The system of claim 8, wherein said
2 shaping die is coupled to a hydroform press.

11. The system of claim 8, wherein said dual
conical tube is further adapted to bend through a
bending process prior to insertion in said shaping die.

1 12. The system of claim 8, wherein said shape
2 of said shaping die substantially conforms to a shape of
3 at least one automobile body component.

1 13. A method for molding a part comprising:
2 rolling a substantially bow tie shaped blank
3 lengthwise to form substantially a dual conical tube
4 shape;
5 joining seams of said substantially bow tie
6 shaped blank;
7 inserting said substantially bow tie shaped
8 blank in a metal forming device comprising a shaping
9 die; and
10 substantially forming through pressurization
11 said substantially bow tie shaped blank to an
12 approximate shape of said shaping die.

1 14. The method of claim 13, further comprising
2 reinforcing said bow tie shaped blank prior to the step
3 of inserting.

1 15. The method of claim 13, wherein metal
2 forming comprises hydroforming.

1 16. The method of claim 15, further comprising
2 bending said substantially bow tie shaped blank prior to
3 the step of hydroforming.

1 17. The method of claim 15, wherein
2 hydroforming includes pressurizing said substantially
3 bow tie shaped blank.

1 18. The method of claim 15, wherein
2 hydroforming includes forming said bow tie shaped
3 blank to a die.

1 19. The method of claim 13, wherein metal
2 forming comprises hot-metal gas forming.

1 20. A part formed according to the method of
2 claim 13 comprising:
3 a first end;
4 a second end;
5 and a central portion positioned between
6 said first and said second ends, said central portion
7 having a smaller cross sectional area than said first
8 and said second ends.